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Filing Date	March 30, 2001
First Named Inventor	Indra LAKSONO
Art Unit	2613
Examiner Name	David J. CZEKAJ
Attorney Docket Number	VIXS.0100020 (1459-VIXS002)

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
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- ☐ Information Disclosure Statement
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- ☐ Reply to Missing Parts/ Incomplete Application
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- ☐ Proprietary Information
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CUSTOMER NO.: 29331

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	LARSON NEWMAN ABEL POLANSKY & WHITE, LLP		
Signature			
Printed name	Ryan S. Davidson		
Date	13 April 2006	Reg. No.	51,596

CERTIFICATE OF TRANSMISSION/MAILING

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Signature			
Typed or printed name	Jennifer Jensen	Date	April 13, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Indra LAKSONO		
Title:	ADAPTIVE BANDWIDTH FOOTPRINT MATCHING FOR MULTIPLE COMPRESSED VIDEO STREAMS IN A FIXED BANDWIDTH NETWORK		
App. No.:	09/823,646	Filed:	03/30/2001
Examiner:	CZEKAJ, David J.	Group Art Unit:	2613
Customer No.:	29331	Confirmation No.:	8519
Atty. Dkt. No.:	VIXS.0100020 (1459-VIXS002)		

Mail Stop APPEAL BRIEF-PATENTS
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

RESUBMISSION OF APPEAL BRIEF

Dear Sir:

A Brief on Appeal for the above-identified Patent Application was submitted on August 31, 2005. A Notice of Non-Compliant Appeal Brief was mailed on April 4, 2006. The Notice indicated that the Brief failed to provide an evidence appendix and a related proceeding appendix and therefore did not comply with 37 C.F.R. Section 41.37. The Appellant thanks the Examiner for providing notice of these issues. The Appellant resubmits herewith a revised version of the previously submitted Brief on Appeal for entry and consideration by the Patent Office. The revised version is believed to be compliant with 37 C.F.R. Section 41.37.

CERTIFICATE OF TRANSMISSION/MAILING
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents on April 13, 2006

Jennifer Jensen
Typed or Printed Name

Signature

The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayment, to Deposit Account Number 50-1835.

Respectfully submitted,

13 April 2006
Date

Ryan S. Davidson, Reg. No. 51,596
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Applicant:	Indra LAKSONO
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The Board of Patent Appeal and Interferences
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

BRIEF IN SUPPORT OF APPEAL

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This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 41.37(c)(1)):

TABLE OF CONTENTS

The final page of this brief before the beginning of the Appendix of Claims bears the agent's signature.

REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))

The real party in interest in this appeal is ViXS Systems, Inc., the assignee, as evidenced by the assignment recorded at Reel 011683, Frame 0653.

II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c)(1)(ii))

There are no interferences or other appeals that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

There are forty-nine (49) claims pending in the application.

B. STATUS OF ALL THE CLAIMS

1. Claims pending:

   Claims 1, 2, 7 and 9-54.

2. Claims withdrawn from consideration but not canceled:

   NONE.

3. Claims allowed:

   NONE.

4. Claims objected to:

   NONE.

5. Claims rejected:

   Claims 1, 2, 42 and 43 are rejected under 35 U.S.C. § 102(e).

Claims 7, 9-41 and 44-54 are rejected under 35 U.S.C. § 103(a).

6. Claims canceled:

Claims 3-6 and 8.

C. CLAIMS ON APPEAL

There are forty-nine (49) claims on appeal, claims 1, 2, 7 and 9-54.

IV. STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))

No amendments have been submitted subsequent to the final Office Action mailed January 25, 2005 (hereinafter, "the Final Rejection").

V. SUMMARY OF THE CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))

The following summary is provided to give the Board the ability to quickly determine where the claimed subject matter appealed herein is described in the present application and is not to limit the scope of the claimed invention.

Independent claim 1 recites the features of receiving a display data, determining if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices, and compressing a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

Independent claim 33 recites the features of determining, for each display stream of a plurality of display streams, if an estimated transmit time meets an actual transmit time within a predetermined tolerance and selecting a first stream of the plurality of display streams based on a

prioritization method. Claim 33 further recites the features of selecting one of a plurality of compression methods to be applied to the first stream and repeating each of the above steps until the step of determining indicates the actual transmit time is within the predetermined tolerance of the estimated transmit time.

Independent claim 37 recites the features of receiving a multimedia data stream having a plurality of multimedia channels, determining, for each multimedia channel in the multimedia data stream, whether an actual transmission time for a multimedia channel matches a predicted transmission time within a predetermined tolerance, and selecting, using a predefined selection method, a first multimedia channel. Claim 37 further recites the features of reducing an amount of data associated with the first multimedia channel when it is determined that the actual transmission time of the first multimedia channel exceeds the predicted transmission time by an amount greater than the predetermined tolerance.

Independent claim 42 recites the features of a system comprising one or more data processors, memory operably coupled to said one or more processors, and a set of instructions capable of being stored in said memory and executed by said one or more processors. Claim 42 recites that the set of instructions is to manipulate said one or more processors to receive a display data, determine if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices and compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

Independent claim 43 recites the features of a computer readable medium tangibly embodying a set of instructions to manipulate one or more data processors to receive a display

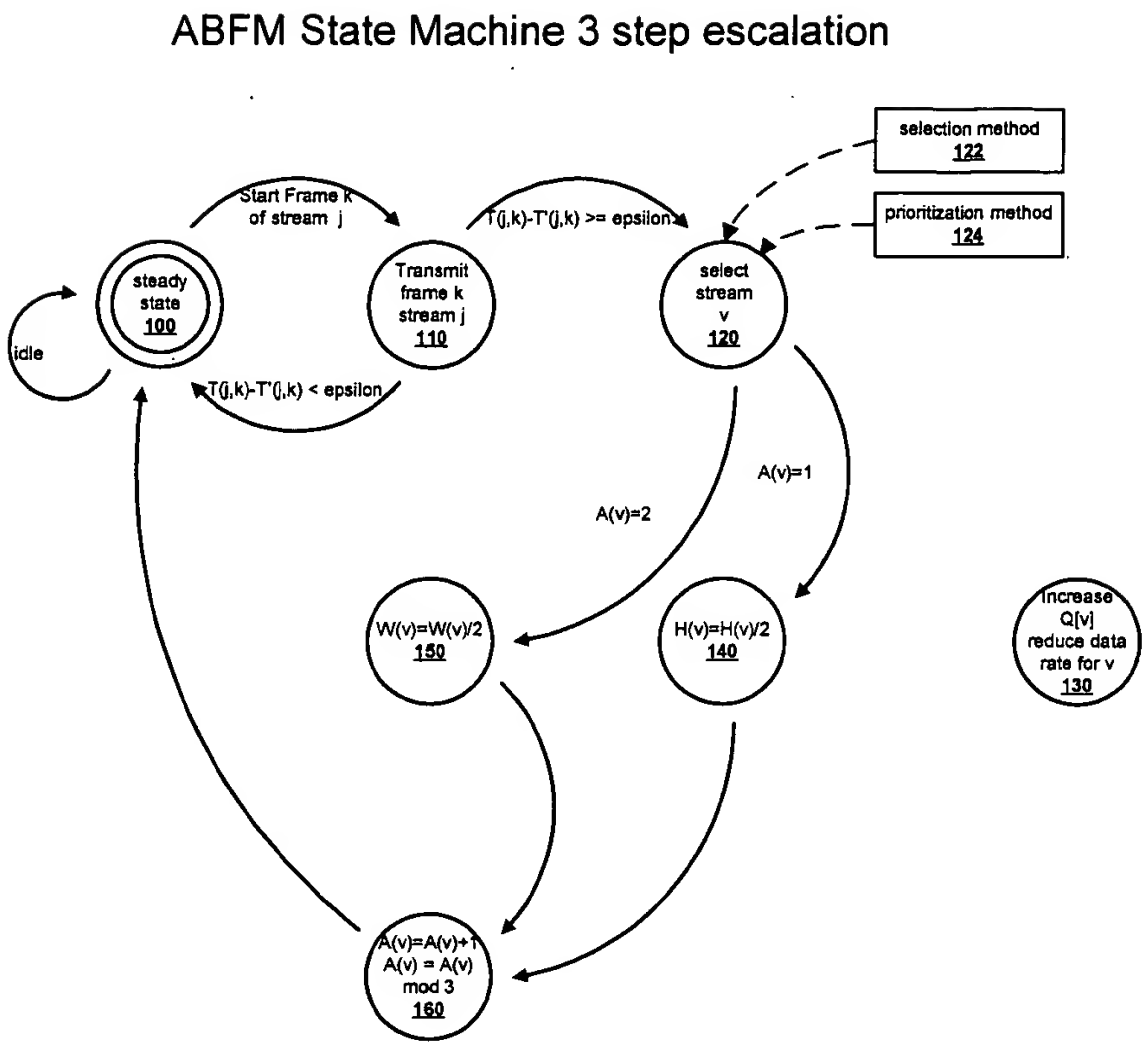
data, determine if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices, and compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

Independent claim 49 recites the features of determining whether a transmission of a data stream having a plurality of multimedia channels is expected to meet a predetermined criteria, compressing at least one of the multimedia channels in the data stream to generate a first compressed data stream when the transmission of the data stream is not expected to meet a predetermined criteria, and determining whether a transmission of the first compressed data stream is expected to meet the predetermined criteria.

Figures 1 and 2 of the present application and their corresponding disclosure are illustrative of exemplary embodiments of the subject matter of independent claims 1, 33, 37, 42, 43 and 49. Figure 1 (reproduced below) illustrates a state machine diagram representative of an Adaptive Bandwidth Footprint Matching (ABFM) method. At steady state 100, each video stream of a plurality of video streams is operating within acceptable parameters. At the commencement of each unit of media (e.g., a frame of video), the state machine transitions to state 110, where the actual transmit time Tj (e.g., the actual time of frame transmission completion) is compared against the estimated transmit time T'j (e.g., the expected time of frame transmission completion) at the start of each frame of stream j. If the actual transmit time Tj exceeds the estimated transmit time T'j by less than a tolerance Dj, the state machine returns to steady state 100. Otherwise, if the tolerance Dj is exceeded (e.g., Tj – T'j >= Dj), the state machine enters state 120. At state 120, a victim stream v to be compressed is selected from the

plurality of video streams using a predetermined selection method, such as by round robin selection or by a weighted or unweighted priority selection method.

In one embodiment, the type/degree of compression of the victim stream v is based on the current degradation of the victim stream (denoted as A(v)). Each time the same victim stream is selected, the value of A(v) is incremented to indicate an increase in the degradation of the victim stream. In the event that the victim stream v was not previously selected for compression (i.e., A(v)=0), the state machine enters state 130, where one or more quantization factors are changed for reencoding the victim stream v so as to compress the victim stream v. Alternately, if the victim stream v was selected for compression once before (i.e., A(v)=1), then the state machine enters state 140, where the frame height of the victim stream v is reduced by a predetermined amount (e.g., ½) during reencoding of the victim stream v so as to compress the victim stream v. Otherwise, if the victim stream v was selected for compression twice before (i.e., A(v)=2), then the state machine enters state 150, where the frame width of the victim stream is reduced by a predetermined amount (e.g., ½) during reencoding of the victim stream so as to compress the victim stream v. At state 160, the degradation value A(v) is modified so as to remain within bounds of the number of degradation types (three in the example of Figure 1), such as by taking the modulo 3 of A(v) (e.g., A(v) = A(v) mod 3). The state machine then returns to state 100. Thus, the state machine of Figure 1 illustrates a technique whereby one of a plurality of video streams being transmitted is selected for compression so as to permit the plurality of video streams to meet minimum desired criteria.

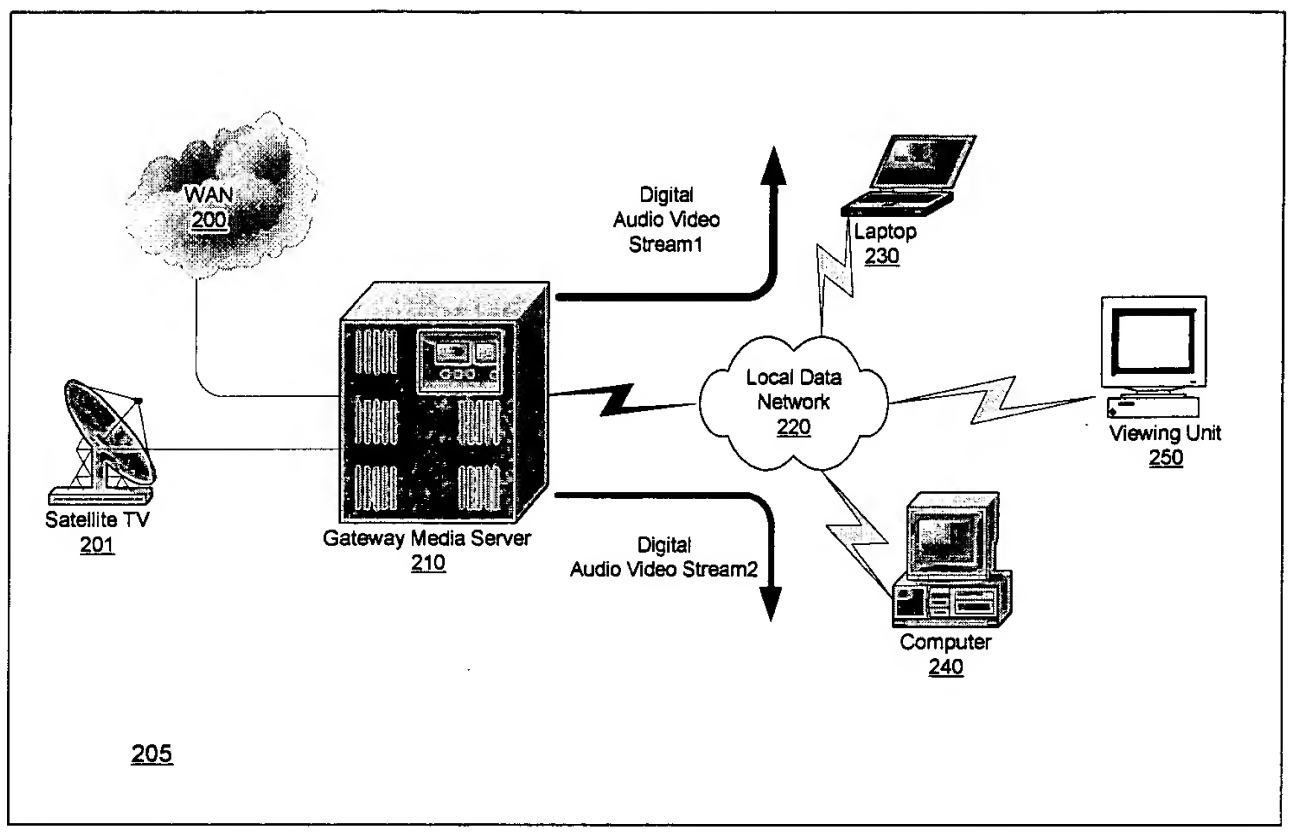


The Present Application, Figure 1

Figure 2 (reproduced below) of the present application illustrates an exemplary ABFM server system 205. As depicted, the system 205 includes a gateway media server 210 that receives input data streams from, for example, a satellite dish 201 or a wide area network (WAN) 200. Each input data stream can include a plurality of multiplexed channels, such as MPEG data channels. The gateway media server 210 then broadcasts the data streams and/or channels over a common medium (e.g., network 220) to one or more display devices, such as laptop 230, computer 240 and viewing unit 250. To illustrate, digital audio video stream1 is transmitted to the laptop 230 and digital audio video stream2 is transmitted to the computer 240. In at least one embodiment, the gateway media server 210 utilizes the ABFM algorithm as discussed above with respect to Figure 1 to maintain the data transmission rate within a fixed bandwidth, where the fixed bandwidth can be based on the maximum bandwidth of the transmission medium (e.g.,

network 220) between the gateway media server 210 and the display devices and/or based on the data processing bandwidth of the gateway media server 210.

Gateway Server and Receiver Clients : System Diagram



The Present Application, Figure 2

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))

A. Claims 1, 2, 42 and 43 are rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,480,541 to Girod *et al.* (hereinafter, "the Girod reference") as set forth in the Final Rejection.

B. Claims 7, 9-12, 15-18, 22-26, 28, 30-32 and 45-54 are rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference as set forth in the Final Rejection.

C. Claims 13 and 14 are rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference in view of U.S. Patent No. 6,144,402 to Norsworthy *et al.* (hereinafter, "the Norsworthy reference") as set forth in the Final Rejection.

D. Claims 19-21 are rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference in view of U.S. Patent App. Pub. No. 2001/0026591 to Keren *et al.* (hereinafter, "the Keren reference") as set forth in the Final Rejection.

E. Claims 27, 29, 33-41 and 44 are rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference in view of U.S. Patent No. 6,584,509 to Putzolu *et al.* (hereinafter, "the Putzolu reference") as set forth in the Final Rejection. [1]

VII. ARGUMENTS (37 C.F.R. § 41.37(c)(1)(vii))

Based on the arguments and issues below, none of the claims stand or fall together, because in addition to having different scopes, each of the independent claims has a unique set of issues relating to its rejection and appeal as indicated in the arguments below:

A. Rejection of Claims 1, 2, 42 and 43 under 35 U.S.C. § 102(e)

In Section 2 of the Final Rejection, claims 1, 2, 42 and 43 were rejected under 35 U.S.C. § 102(e) as anticipated by the Girod reference. For ease of reference, independent claims 1, 42 and 43 are reproduced below:

---

[1] Claims 34-36 and 44, which depend from independent claim 33, and claims 39-41, which depend from independent claim 37, were listed in the Final Rejection as being rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference. However, independent claims 33 and 37 were listed in the Final Rejection as being rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference in view of the Putzolu reference. As claims 34-36 and 44 have narrower scopes than claim 33 and claims 39-41 have narrower scopes than claim 37 by virtue of their dependencies from one of claims 33 or 37, their rejection in view of Girod only is improper. It therefore is assumed that the Final Rejection intended to reject dependent claims 34-36, 39-41, and 44 in view of the proposed combination of the Girod and Putzolu references as applied to claims 33 and 37 and therefore addresses the rejection of claims 34-36, 39-41 and 44 in this section.

1. (Previously Presented) A method comprising:

receiving a display data;

determining if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and

compressing a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

42. (Previously Presented) A system comprising:

one or more data processors;

memory operably coupled to said one or more processors; and

a set of instructions capable of being stored in said memory and executed by said one or more processors, said set of instructions to manipulate said one or more processors to:

receive a display data;

determine if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and

compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

43. (Previously Presented) A computer readable medium tangibly embodying a set of instructions to manipulate one or more data processors to:

receive a display data;

determine if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and

compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

Under 35 U.S.C. § 102, the Patent Office bears the burden of presenting at least a prima facie case of anticipation. In re Sun, 31 USPQ2d 1451, 1453 (Fed. Cir. 1993) (unpublished). Anticipation requires that a prior art reference disclose, either expressly or under the principles of inherency, each and every element of the claimed invention. Id. "In addition, the prior art reference must be enabling." Akzo N.V. v. U.S. International Trade Commission, 808 F.2d 1471, 1479, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986), cert. denied, 482 U.S. 909 (1987). That is, the prior art reference must sufficiently describe the claimed invention so as to have placed the

public in possession of it. In re Donohue, 766 F.2d 531, 533, 226 USPQ 619, 621 (Fed. Cir. 1985). "Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed invention." Id.

1. Rejection of Claims 1 and 2

a) The Girod reference fails to disclose or suggest compressing a first display stream of a first plurality of display streams when it is determined that a first representation of a display data does not meet a predetermined criteria as recited by claim 1

Claim 1, from which claim 2 depends, recites the features of compressing a first display stream of a first plurality of display streams when it is determined that a first representation of a display data does not meet a predetermined criteria. The Final Rejection asserts that the passage at col. 7, line 42 – col. 8, line 14 of the Girod reference discloses these features. See Final Rejection, p. 4. For ease of reference, the cited passage of the Girod reference is reproduced below in its entirety:

> The coding apparatus 100 of FIG. 2 is arranged to allow the coding and storage of the same video signal at a variety of different bit rates. In particular, the video signal is coded using different resolutions of quantization in each of coders 100a, 100b, 100c, respectively. As shown, the output of coder 100a is stored in memory unit 140a, the output of coder 100b is stored in memory unit 140b, and the output of coder 100c is stored in memory unit 140c. Once the video signal is coded and stored, the stored signals may be used as part of a video-on-demand server to provide the same video signal at any of a number of different bit rates. The manner in which the data is coded and stored allows for the bit rate to be changed during a transmission of the video signal by switching the output from, for example, memory 140a to memory 140b.
>
> Multiple coders 100a, 100b, 100c are each designed for coding data with a different level of compression, so that each provides video data for transmission at a different bit rate. In general, the greater the number of quantization levels used by the coder, the higher the quality of the transmitted image, and the higher the bit rate. Thus, in the tradeoff between image quality and transmission bandwidth, the quality of a transmission channel often determines the bandwidth

which will allow real time decoding and display at the receiving end of the transmission. If a variety of bit rates are available, handshaking commands between the destination and the source can be used to select the highest bit rate tolerable by the transmission channel (for real time decoding), thereby providing the best possible image quality.

In the FIG. 2 embodiment, coder 100a codes the video signal with a coarseness of quantization which results in its output having the lowest bit rate of the signals provided by the coders. Similarly, the signal output by coder 100b has a less coarse quantization which produces the next higher bit rate, and the signal output by coder 100c has an even less coarse quantization than coder 100b, which results in the highest bit rate. Thus, if a transmission channel being used allows only a low bit rate, the decoder sends a request for the coded version of the video signal having the lowest bit rate (i.e. the signal coded by coder 100a). After the three bitstreams have been coded by coders 100a, 100b, 100c and stored in memory units 140a, 140b, and 140c, respectively, they may be arranged as part of a video-on-demand server, depicted schematically in FIG. 3.

Girod Reference, col. 7, line 42 – col. 8, line 18.

Figures 2 and 3 of the Girod reference also are reproduced below for ease of reference:

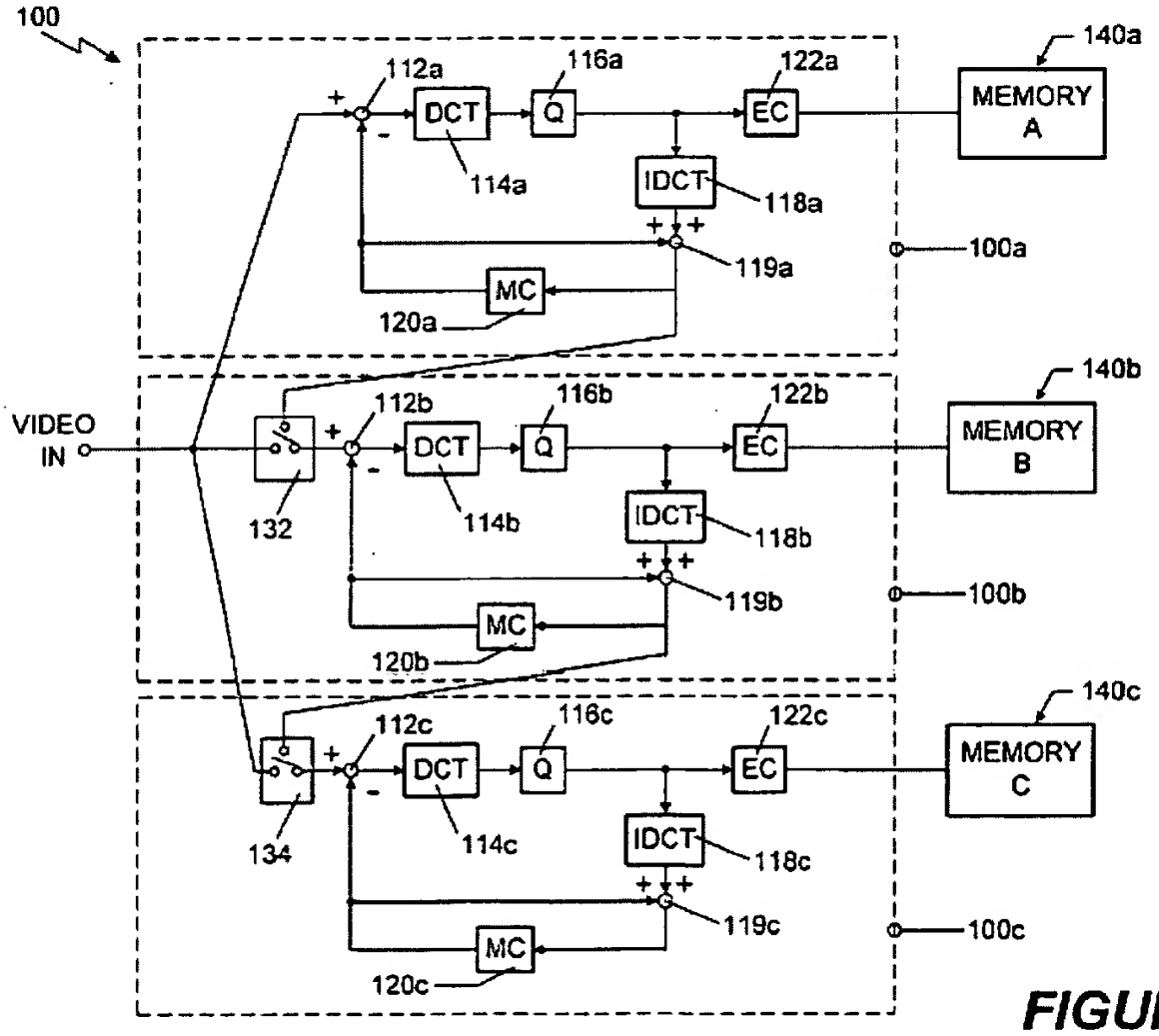


FIGURE 2

The Girod Reference, Figure 2

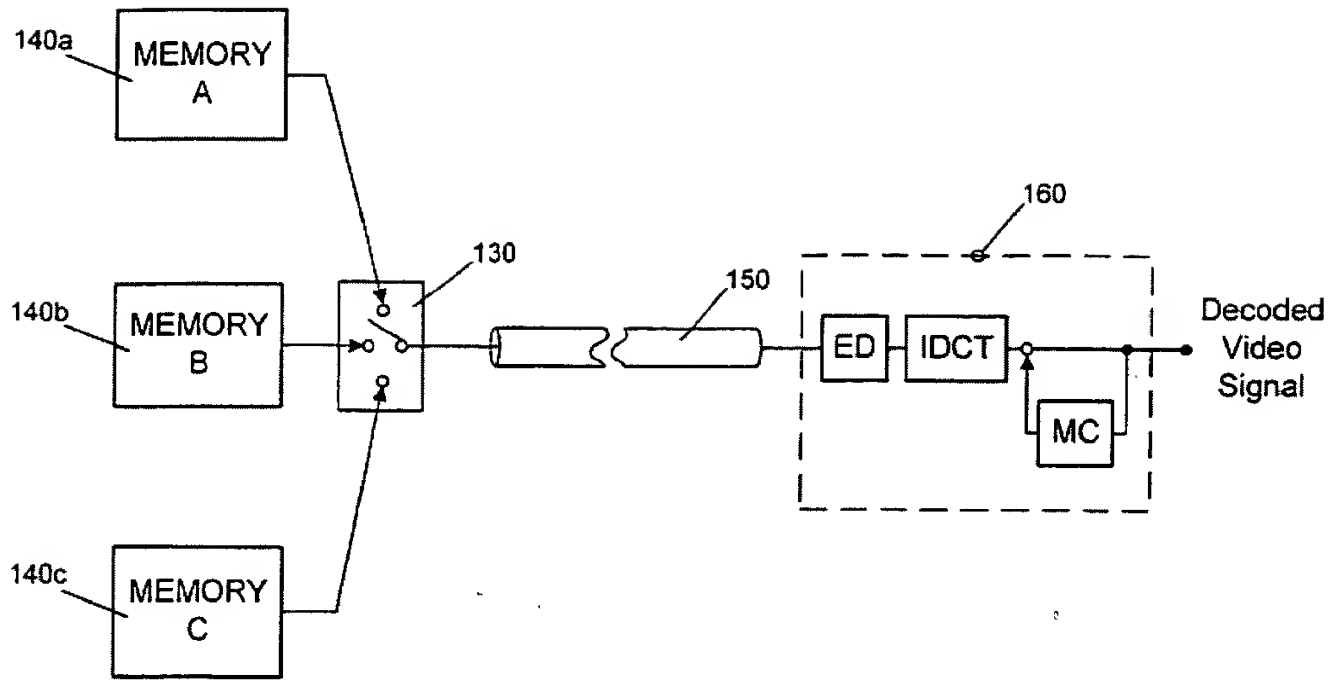


FIGURE 3

The Girod Reference, Figure 3

As illustrated by Figure 2 and as disclosed by the cited passage of the Girod reference, the ***same*** *video in* signal is encoded at different levels of compression at coders 100a, 100b and 110c. Each compressed version of the *video in* signal output by the coders 100a, 100b and 100c is then stored in memories 140a, 140b and 140c, respectively. See Girod Reference, col. 8, lines 15-16. As illustrated by Figure 3 of the Girod reference, the capacity of the transmission channel 150 is determined and a selector (switch 130) "directs the output bitstream from the appropriate memory unit [one of memories 140a, 140b or 140c] to the receiver [decoder 160] over the transmission channel [150]." See Id., col. 8, lines 33-43. As provided by the Girod reference, the entire video sequence is transmitted from the same memory unit if the bit rate tolerable by a particular receiver is unchanged for the duration of the transmitted video signal, whereas the transmission of the video sequence may switch between the memory units if the bit rate tolerable by the receiver changes during the duration of the transmitted video signal. See Id., col. 8, line

53 to col. 9, line 5. Thus, the Girod reference discloses transmitting a single data stream to a receiver, where the effective data size of a particular segment of the single transmitted data stream can be changed by selecting between various compressed versions of the particular segment from memories 140a, 140b or 140c.

With respect to the Girod reference, the Final Rejection asserts that "[t]he predetermined criteria or available bandwidth is determined for each channel. The display stream, or video, having the highest bit rate tolerable by the channel is then selected. . . . The system *compresses the display stream or video* ***and then*** *selects one of the compressed streams based upon the available bandwidth of the channel.*" Final Rejection, p. 4 (emphasis added). Thus, as acknowledged by the Final Rejection, the system disclosed by the Girod reference compresses the *video in* signal first and then selects from various compressed versions of the *video in* signal for transmission based on the available bandwidth of the channel. In contrast, claim 1 recites the features of compressing a first display stream of the first plurality of display streams *when it is determined that the first representation of the display data does not meet the predetermined criteria.* Accordingly, while the Girod reference teaches compressing a data stream and then selecting a compressed version of the data stream in response to a determination of an available bandwidth, claim 1 provides that compression of a first display stream is in response to a determination of whether the first representation of the display data meets the predetermined criteria.[2] Accordingly, the Girod reference fails to disclose or suggest the features of

[2] The Advisory Action states that "applicant argues that Girod fails to disclose determining if predetermined criteria is met prior to compression of the video signal. While the applicant's points are understood, the examiner respectfully disagrees . . . Further, the examiner notes that determining a predetermined criteria before compressing is not found in the claims." The Appellant disagrees. Claim 1 recites the features of "determining if a predetermined criteria is met by a first representation of the display data" and "compressing a first display stream of the first plurality of display streams ***when it is determined*** that the first representation of the display data does not meet the predetermined criteria." Thus, the determination of whether the predetermined criteria is met is a condition for compressing the first display stream and therefore occurs before compressing the first display stream.

compressing a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria as recited by claim 1.

b) Claims 1 and 2 are allowable under 35 U.S.C. § 102(e)

As discussed in section (a) above, the Girod reference fails to disclose or suggest each and every feature of claim 1, and therefore also fails to disclose or suggest each and every feature of claim 2 at least by virtue of its dependency from claim 1. Accordingly, the Final Rejection fails to establish a *prima facie* case of anticipation in support of its rejection of claims 1 and 2 under 35 U.S.C. § 102(e). Claims 1 and 2 therefore are allowable under 35 U.S.C. § 102(e).

2. Rejection of Claim 42

a) The Girod reference fails to disclose or suggest compressing a first display stream of a first plurality of display streams when it is determined that a first representation of a display stream does not meet a predetermined criteria as recited by claim 42

Claim 42 recites the features of a set of instructions to manipulate one or more processors to compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria. The Final Rejection asserts that the passages of the Girod reference at col. 1, lines 14-16 and col. 7, line 50 – col. 8, line 18 (reproduced above) discloses these features of claim 42. As discussed with respect to claim 1, the Girod reference teaches compressing a data stream *and then* selecting a compressed version of the data stream in response to a determination of an available bandwidth, whereas claim 42 provides that compression of a first display stream is in response to a determination of whether the first representation of the display data meets the predetermined criteria. Accordingly, the Girod reference fails to disclose or suggest the features of compressing

a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria as recited by claim 42.

b) Claim 42 is allowable under 35 U.S.C. § 102(e)

As discussed in section (a) above, the Girod reference fails to disclose or suggest each and every feature of claim 42. Accordingly, the Final Rejection fails to establish a *prima facie* case of anticipation in support of its rejection of claim 42 under 35 U.S.C. § 102(e). Claim 42 therefore is allowable under 35 U.S.C. § 102(e).

3. Rejection of Claim 43

a) The Girod reference fails to disclose or suggest compressing a first display stream of a first plurality of display streams when it is determined that a first representation of a display stream does not meet a predetermined criteria as recited by claim 43

Claim 43 recites the features of a set of instructions to manipulate one or more processors to compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria. The Final Rejection asserts that the passages of the Girod reference at col. 1, lines 14-16 and col. 7, line 50 – col. 8, line 18 (reproduced above) disclose these features of claim 43. As similarly discussed with respect to claims 1 and 42, the Girod reference teaches compressing a data stream and then selecting a compressed version of the data stream in response to a determination of an available bandwidth, whereas claim 43 provides that compression of a first display stream is in response to a determination of whether the first representation of the display data meets the predetermined criteria. Accordingly, the Girod reference fails to disclose or suggest the features of compressing a first display stream of the first plurality of display streams when it is

determined that the first representation of the display data does not meet the predetermined criteria as recited by claim 43.

b) Claim 43 is allowable under 35 U.S.C. § 102(e)

As discussed in sections (a) and (b) above, the Girod reference fails to disclose or suggest each and every feature of claim 43. Accordingly, the Final Rejection fails to establish a *prima facie* case of anticipation in support of its rejection of claim 43 under 35 U.S.C. § 102(e). Claim 42 therefore is allowable under 35 U.S.C. § 102(e).

B. Rejection of Claims 7, 9-12, 15-18, 22-26, 28, 30-32 and 45-54

In Section 4 of the Final Rejection, claims 7, 9-12, 15-18, 22-26, 28, 30-32 and 45-54 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference. For ease of reference, independent claims 1, 42, 43 and 49 are reproduced below:

1. (Previously Presented) A method comprising:
receiving a display data;
determining if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and
compressing a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

42. (Previously Presented) A system comprising:
one or more data processors;
memory operably coupled to said one or more processors; and
a set of instructions capable of being stored in said memory and executed by said one or more processors, said set of instructions to manipulate said one or more processors to:
receive a display data;
determine if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and
compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

43. (Previously Presented) A computer readable medium tangibly embodying a set of instructions to manipulate one or more data processors to:

receive a display data;

determine if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and

compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

49. (Previously Presented) A method comprising:

determining whether a transmission of a data stream having a plurality of multimedia channels is expected to meet a predetermined criteria;

compressing at least one of the multimedia channels in the data stream to generate a first compressed data stream when the transmission of the data stream is not expected to meet a predetermined criteria; and

determining whether a transmission of the first compressed data stream is expected to meet the predetermined criteria.

According to 35 U.S.C. § 103(a), "[a] patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art of such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing *a prima facie* case of obviousness. In re Fritch, 972 F.2d 1260,1262,23 U.S.P.Q. 2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Rijckaert, *9* F.3d

1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Grabiak, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. In re Bell, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim features. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. Id.

1. Rejection of Claims 7, 9-12, 15-18, 22-26, 28 and 30-32

a) The Girod reference fails to disclose or suggest the features of claims 7, 9-12, 15-18, 22-26, 28 and 30-32 by virtue of their dependency from claim 1

Claims 7, 9-12, 15-18, 22-26, 28 and 30-32 depend from independent claim 1. As discussed above, the Girod reference fails to disclose or suggest each and every feature of claim 1 and therefore fails to disclose each and every feature of claims 7, 9-12, 15-18, 22-26, 28 and 30-32 at least by virtue of their dependency from claim 1.

b) The Girod reference fails to disclose or suggest determining if the predetermined criteria is met when the first plurality of display streams is to be transmitted to the first plurality of display devices within a fixed bandwidth as recited by claim 22

Claim 22 recites the features of determining if a predetermined criteria is met when a first plurality of display streams is to be transmitted to a first plurality of display devices within a fixed bandwidth. The Final Rejection asserts that the passage of the Girod reference at col. 7, line 50 – col. 8, line 14 (reproduced above) discloses these features. If it is assumed, *arguendo*, that the versions of the *video in* signal having different amounts of compression represent different display streams as asserted by the Final Rejection, the Girod reference fails to disclose or suggest that two or more of these different versions of the *video in* signal are to be transmitted within a fixed bandwidth. Instead, the Girod reference teaches that a selector (i.e., switch 130, Figure 2) selects only one of the multiple versions for transmission at any given time, where the version of the *video in* signal selected is based on the bandwidth available at that given time. Thus, the Girod reference fails to disclose or suggest that *a plurality of display streams* is to be transmitted to a first plurality of display devices within a fixed bandwidth as recited by claim 22.

c) The Girod reference fails to disclose or suggest a fixed bandwidth that is a maximum bandwidth of a processing device that performs the compression of a first display stream as recited by claim 25

Claim 25, which depends from claim 22 (discussed above), recites that the fixed bandwidth is a maximum bandwidth of a processing device that performs the compression of the first display stream. The Final Rejection asserts that the cited passage of the Girod reference at col. 7, line 50 to col. 8, line 14 (reproduced above) discloses these features. Specifically, the Final Rejection asserts that the coders 100a, 100b and 100c are equivalent to a processing device and notes that "the coders supply the video data to be transmitted at a rate maximizing efficiency to the system." Final Rejection, p. 7. Regardless of whether the coders are equivalent to a

processing device, the Girod reference provides no support for the Final Rejection's assertion that "the coders supply the video data to be transmitted at a rate maximizing efficiency to the system." Instead, as repeatedly acknowledged by the Final Rejection, it is the available channel bandwidth, not the coder bandwidth, that is considered by the system of the Girod reference when selecting between the compressed versions of the *video in* signal for transmission on the transmission channel 150. See Final Rejection, pp. 4-6. Accordingly, the Girod reference fails to disclose or suggest that the fixed bandwidth is a maximum bandwidth of a processing device that performs the compression of the first display stream as recited by claim 25.

d) The Girod reference fails to disclose or suggest selecting an uncompressed display stream over a display stream compressed in a first manner as recited by claim 30

With respect to claim 30, the Final Rejection asserts that the Girod reference discloses "selecting the first stream is based on previous compression of a display stream." Final Rejection, p. 7. However, the features cited by the Final Rejection are not recited by claim 30. Rather, claim 30, which depends from claim 26, recites the features of wherein selecting the first display stream includes selecting an uncompressed display stream over a display stream compressed in a first manner. The Final Rejection is silent as to how, if at all, these features are disclosed or suggested by the Girod reference. The Advisory Action asserts that Figure 6A of the Girod reference discloses providing the *video in* signal directly to the transmission channel, but does not assert that the Girod reference discloses or suggests the selection of an uncompressed display stream over a display stream compressed in a first manner. Moreover, contrary to the assertions of the Advisory Action, Figure 6A of the Girod reference fails to disclose or suggest the directly providing the *video in* signal to the transmission channel without compression. Regardless, the Girod reference fails to disclose or suggest the claimed features

for at least the reason that the Girod reference teaches a system whereby only compressed versions of the *video in* signal are selected.

e) Claims 7, 9-12, 15-18, 22-26, 28 and 30-32 are allowable under 35 U.S.C. § 103(a)

As discussed in sections (a)-(d) above, the Girod reference fails to disclose or suggest each and every feature of claim 7, 9-12, 15-18, 22-26, 28 and 30-32 at least by virtue of their dependency from independent claim 1. Moreover, the Girod reference fails to disclose or suggest additional features recited by at least dependent claims 22, 25 and 30. Accordingly, the Final Rejection fails to establish a *prima facie* case of obviousness in support of its rejection of claims 7, 9-12, 15-18, 22-26, 28 and 30-32 under 35 U.S.C. § 103(a). Claims 7, 9-12, 15-18, 22-26, 28 and 30-32 therefore are allowable under 35 U.S.C. § 103(a).

2. Rejection of Claims 44-48

Claims 45 and 46 depend from independent claim 42 and claims 47 and 48 depend from independent claim 43. As discussed above, the Girod reference fails to disclose or suggest each and every feature of claims 42 and 43 and therefore fails to disclose or suggest each and every feature of claims 45-48 at least by virtue of their dependency from one of claims 42 or 43. Accordingly, the Final Rejection fails to establish a *prima facie* case of obviousness in support of its rejection of claims 44-48 under 35 U.S.C. § 103(a). Claims 44-48 therefore are allowable under 35 U.S.C. § 103(a).

3. Rejection of Claims 49-54

a) The Final Rejection fails to establish a prima facie case of obviousness for the rejection of claims 49-54

In section 4 of the Final Rejection, independent claim 49 was listed as rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference. However, other than listing claim 49 as rejected, the Final Rejection provides no support or rational its assertion that the Girod reference discloses the features of claim 49. In response to the Appellant's notification of the lack of any support for the rejection of claim 49, the Advisory Action stated that "only the new limitations set forth in the rejection for claims 10-12, 49-52, and 54 were discussed. Similar/identical limitations were discussed in previous rejections." Contrary to the assertions of the Advisory Action, claims 49-54 were added subsequent to the "previous rejections" referred to by the Advisory Action and none of the currently or previously pending claims recited the same particular combination of features of claim 49. Accordingly, the particular combinations of features recited by claim 49 with respect to the cited references have not been substantively addressed by the Office. The Office therefore has failed to establish a *prima facie* case of obviousness for claim 49, as well as claims 50-51 by virtue of their dependency from claim 49.

b) The Girod reference fails to disclose or suggest compressing at least one of the multimedia channels in the data stream to generate a first compressed data stream when the transmission of the data stream is not expected to meet a predetermined criteria as recited by claim 49

Claim 49 recites the features of determining whether a transmission of a data stream having a plurality of multimedia channels is expected to meet a predetermined criteria and compressing at least one of the multimedia channels in the data stream to generate a first compressed data stream when the transmission of the data stream is not expected to meet a predetermined criteria. With respect to claim 49, the Final Rejection asserts that "Girod

discloses 'determining for each stream whether an actual transmission time for a video frame matches a predicted transmission time within a predetermined tolerance.'" Final Rejection, p. 5. However, these features attributed to claim 49 by the Final Rejection are not recited by claim 49.

Regardless, the Girod reference teaches compressing the same *video in* signal to generate different compressed versions of the *video in* signal and then selecting between one or more of the different compressed versions for output based on the capacity of the transmission channel. Thus, rather than first determining whether a transmission of a data stream having a plurality of multimedia channels is expected to meet a predetermined criteria and then compressing at least one of the multimedia channels in the data stream based on the determined expectation as provided by claim 49, the apparatus of the Girod reference first compresses the *video in* signal and then selects the compressed version most suited to the actual bandwidth of the transmission channel. Accordingly, the Girod reference fails to disclose or suggest the features of compressing at least one of the multimedia channels in the data stream to generate a first compressed data stream when the transmission of the data stream is not expected to meet a predetermined criteria as recited by claim 49.

c) Claims 49-54 are allowable under 35 U.S.C. § 103(a)

As discussed in section (b) above, the Girod reference fails to disclose or suggest each and every feature of independent claim 49, as well as claims 50-54 at least by virtue of their dependency from claim 49. Moreover, as discussed in section (a) above, the Final Rejection provides no support for its assertion that the Girod reference discloses or suggests the particular combination of features recited by claim 49. Accordingly, the Final Rejection fails to establish a *prima facie* case of obviousness in support of its rejection of claims 49-54 under 35 U.S.C. § 103(a). Claims 49-54 therefore are allowable under 35 U.S.C. § 103(a).

C. Rejection of Claims 13 and 14

In Section 5 of the Final Rejection, claims 13 and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference in view of the Norsworthy reference.

a) The proposed combination of the Girod and Norsworthy references fails to disclose or suggest the features of claims 13 and 14 by virtue of their dependency from claim 1

Claims 13 and 14 depend from independent claim 1. As discussed above, the Girod reference fails to disclose or suggest each and every feature of claim 1. The Final Rejection does not assert that the Norsworthy reference discloses or suggests any of the features of claim 1, nor are any of the features of claim 1 in fact disclosed or suggested by the Norsworthy reference. The proposed combination of Girod and Norsworthy therefore fails to disclose or suggest each and every feature of claims 13 and 14 at least by virtue of their dependency from claim 1.

b) The proposed combination of the Girod and Norsworthy references fails to disclose or suggest a one-to-one correspondence between display streams in the first plurality of display streams and display devices in the first plurality of display devices as recited by claim 13

Claim 13 recites the features of wherein there is a one-to-one correspondence between display streams in the first plurality of display streams and display devices in the first plurality of display devices. The Final Rejection asserts that the passage of the Norsworthy referenced at col. 8, lines 1-18 discloses these features. For ease of reference, the cited passage of Norsworthy is reproduced in its entirety below:

> The existence of lines, fields and frames allow the time slots to be naturally and efficiently segmented into chunks that can be used for unique transactions. An important requirement for the delivery of high quality multimedia data, such as full motion video and audio, is the establishment of a dedicated and guaranteed channel bandwidth between the ISP and the user. The channel data rates of approximately 19 Mbps for terrestrial and approximately 36 Mbps for cable, per 6 MHz channel, can be segmented into smaller subchannels. For example, the 36 Mbps cable channel can be segmented into approximately 150 256 Kbps subchannels. The segmentation can be personalized, so that a user can request a larger subchannel when needed. For example, 64 Kbps is the minimum rate for video conferencing, while 256 Kbps would provide a better quality picture. Consequently, the user can request and pay for a guaranteed higher data rate to achieve a better quality or higher resolution picture. The segmentation can be accomplished by time division multiplexing of the base band data signals in the data channel. By employing this feature of the invention, the user receives a guaranteed bit rate and their desired quality of service.

Norsworthy Reference, col. 7, line 65 – col. 8, line 18.

Specifically, the Final Rejection asserts that the "one-to-one correspondence is the channel set up between the provider and the customer." Final Rejection, p. 9. It is noted that the "channel set up between the provider and customer" shows only a correspondence between a single provider and a single customer and not a one-to-one correspondence as recited. Accordingly, the proposed combination of the Girod and Norsworthy references necessarily fails to disclose or suggest a one-to-one correspondence between display streams of a first plurality of display streams and display devices of a first plurality of display devices as recited by claim 13.

c) The final rejection fails to establish an appropriate motivation to combine the Girod and Norsworthy references

With respect to the proposed combination of the Girod and Norsworthy references in view of claim 13, the Final Rejection asserts that "it would have been obvious . . . to take the apparatus disclosed by Girod and add the one-to-one correspondence taught by Norsworthy in order to obtain an apparatus that delivers higher quality video to customer." Final Rejection, p. 9. It is unclear how having a one-to-one correspondence between display streams and display

devices as recited by claim 13 results in the delivery of higher quality video to a customer as proposed by the Final Rejection in justifying the proposed combination of the Girod and Norsworthy references. Rather, it appears that the Final Rejection has taken a generic motivation and attempted to align it with the particular combination of features recited by claim 13. As there is no clear correlation between having a one-to-one correspondence between display streams and display devices and the delivery of higher quality video to a customer, the Final Rejection fails to establish a proper motivation for combining the Girod and Norsworthy references.

d) Claims 13 and 14 are allowable under 35 U.S.C. § 103(a)

As discussed in sections (a) and (b) above, the proposed combination of the Girod and Norsworthy references fails to disclose or suggest each and every feature of claims 13 and 14 at least by virtue of their dependency from independent claim 1. The proposed combination of the Girod and Norsworthy references also fails to disclose or suggest the additional features recited by at least dependent claim 13. Moreover, as discussed in section (c) above, the Final Rejection fails to establish a proper motivation for combining the Girod and Norsworthy references. Accordingly, the Final Rejection fails to establish a *prima facie* case of obviousness in support of its rejection of claims 13 and 14 under 35 U.S.C. § 103(a). Claims 13 and 14 therefore are allowable under 35 U.S.C. § 103(a).

D. Rejection of Claims 19-21

In Section 6 of the Final Rejection, claims 19-21 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference in view of the Keren reference.

Claims 19-21 depend from independent claim 1. As discussed above, the Girod reference fails to disclose or suggest each and every feature of claim 1. The Final Rejection does not assert that the Keren reference discloses or suggests any of the features of claim 1, nor are any of the features of claim 1 in fact disclosed or suggested by the Keren reference. The proposed combination of the Girod and Keren references therefore fails to disclose or suggest each and every feature of claims 19-21 at least by virtue of their dependency from claim 1. Accordingly, the Final Rejection fails to establish a *prima facie* case of obviousness in support of its rejection of claims 13 and 14 under 35 U.S.C. § 103(a). Claims 13 and 14 therefore are allowable under 35 U.S.C. § 103(a).

E. Rejection of Claims 27, 29, 33-41 and 44

In Section 7 of the Final Rejection, claims 27, 29, 33, 37 and 38 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Girod reference in view of the Putzolu reference. As discussed above, claims 34-36 and 44 depend from independent claim 33 and claims 39-41 depend from independent claim 37. Thus, as claims 34-36, 39-41 and 44 have narrower scopes than the independent claims 33 or 37 from which they respectively depend, the rejection of claims 34-36, 39-41 and 44 under the Girod reference only is improper. The rejection of claims 34-36, 39-41 and 44 therefore has been included in the obviousness rejection in view of the proposed combination of the Girod and Putzolu reference. For ease of reference, independent claims 1 (from which claims 27 and 29 depend), 33 and 37 are reproduced below:

1. (Previously Presented) A method comprising:
receiving a display data;
determining if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and
compressing a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

33. (Previously Presented) A method comprising:
determining, for each display stream of a plurality of display streams, if an estimated transmit time meets an actual transmit time within a predetermined tolerance;
selecting a first stream of the plurality of display streams based on a prioritization method;
selecting one of a plurality of compression methods to be applied to the first stream; and
repeating each of the above steps until the step of determining indicates the actual transmit time is within the predetermined tolerance of the estimated transmit time.

37. (Previously Presented) A method comprising:
receiving a multimedia data stream having a plurality of multimedia channels;
determining, for each multimedia channel in the multimedia data stream, whether an actual transmission time for a multimedia channel matches a predicted transmission time within a predetermined tolerance;
selecting, using a predefined selection method, a first multimedia channel; and
reducing an amount of data associated with the first multimedia channel when it is determined that the actual transmission time of the first multimedia channel exceeds the predicted transmission time by an amount greater than the predetermined tolerance.

1. Rejection of Claims 27 and 29

a) The proposed combination of the Girod and Putzolu references fails to disclose or suggest the features of claims 27 and 29 by virtue of their dependency from claim 1

Claims 27 and 29 depend from independent claim 1. As discussed above, the Girod reference fails to disclose or suggest each and every feature of claim 1. The Final Rejection does not assert that the Putzolu reference discloses or suggests any of the features of claim 1, nor are any of the features of claim 1 in fact disclosed or suggested by the Putzolu reference. The

proposed combination of the Girod and Putzolu references therefore fails to disclose or suggest each and every feature of claims 27 and 29 at least by virtue of their dependency from claim 1.

b) The Girod reference teaches away from the proposed combination of the Girod and the Putzolu references with respect to claim 27

Claim 27 depends from claim 26, which depends from claim 1. Claim 26 recites the features of selecting the first display stream from the first plurality of display streams using a predefined selection method. Claim 27 recites the additional features of wherein the predefined selection method includes a round robin method. The Final Rejection asserts that the Putzolu reference "teaches that a round robin scheme allows all classes to have equal opportunities to access the links" and therefore "it would have been obvious . . . to take the apparatus disclosed by Girod and add the round robin scheme disclosed by Putzolu in order to obtain an apparatus that operates more efficiently by being able to select streams in a fair and equal manner." Final Rejection, p. 10.

Contrary to the assertions of the Final Rejection, there is no motivation to combine the Putzolu and Girod references. In fact, the Girod reference teaches away from such a combination. As discussed above, the Final Rejection considers the different compressed versions of the *video in* signal to be equivalent to a plurality of display streams. As taught by the Girod reference, and as acknowledged at, *inter alia*, pages 4, 5 and 6 of the Final Rejection, one of the compressed versions of the *video in* signal is selected based on the capacity of the transmission channel so as to select the compressed version of the *video in* signal that is most compatible with the transmission channel capacity. The Girod reference performs this selection so as to provide the best tradeoff between video quality and the available bandwidth of the transmission channel. See, e.g., Girod Reference, col. 7, line 55 – col. 8, line 53. If, however,

the Girod reference were to use a round robin method so that the different compressed versions of the *video in* streams are selected "in a fair and equal manner," there is a high probability that the apparatus of the Girod reference as modified by the Putzolu reference would (1) select a compressed version for transmission that exceeds the capability of the transmission channel, thereby significantly degrading the quality of the transmitted image or (2) select a compressed version for transmission that is significantly below the available bandwidth, thereby resulting in the transmission of a lower image quality version of the *video in* signal than otherwise could be transmitted given the available bandwidth. Thus, the "fair and equal" selection motivation of Putzolu is counter to the goal of providing the highest quality image transfer for a given transmission channel capacity as taught by the Girod reference, and the Girod reference therefore teaches away from the modification in view of the Putzolu reference as proposed by the Final Rejection to arrive at the particular combination of features recited by claim 27.

c) The Final Rejection fails to establish a motivation to combine the Girod and Putzolu references with respect to claim 29

Claim 29 depends from claim 26, which depends from claim 1. Claim 26 recites the features of selecting the first display stream from the first plurality of display streams using a predefined selection method. Claim 29 recites the additional features of wherein selecting is based on a prioritization of one or more of the display streams associated with the plurality of display streams. The Final Rejection asserts that Figure 3 of the Putzolu reference discloses the features of claim 29 and states "wherein the display streams are segments." Final Rejection, p. 11. Regardless of whether the Putzolu reference discloses that selecting is based on a prioritization of one or more display streams, the Final Rejection does not describe any motivation for one of ordinary skill in the art to combine the Girod and Putzolu references as

proposed by the Final Rejection so as to arrive at the particular combination of features recited by claim 29.

d) Claims 27 and 29 are allowable under 35 U.S.C. § 103(a)

As discussed in section (a) above, the proposed combination of the Girod and Norsworthy references fails to disclose or suggest each and every feature of claims 27 and 29 at least by virtue of their dependency from independent claim 1. As discussed in section (b) above, the Girod reference teaches away from its combination with the Putzolu reference so as to arrive at the particular combination of features recited by claim 27. As discussed in section (c) above, the Final Rejection fails to provide any motivation to combine the Girod and Putzolu references so as to arrive at the particular combination of features recited by claim 29. Accordingly, the Final Rejection fails to establish a *prima facie* case of obviousness in support of its rejection of claims 27 and 29 under 35 U.S.C. § 103(a). Claims 27 and 29 therefore are allowable under 35 U.S.C. § 103(a).

2. Rejection of Claims 33-36 and 44

a) The proposed combination of the Girod And Putzolu references fails to disclose or suggest determining if an estimated transmit time for a display stream meets an actual transmit time within a predetermined tolerance as recited by claim 33

Claim 33, from which claims 34-36 and 44 depend, recites the features of determining, for each display stream of a plurality of display streams, if an estimated transmit time meets an actual transmit time *within a predetermined tolerance*. The Final Rejection asserts that "the predetermined tolerance is the maximum bit rate for each channel." Final Rejection, p. 11. However, it is unclear how an actual transmit time for a display stream can meet an estimated transmit time within "the maximum bit rate for the channel" (i.e., the alleged predetermined

tolerance), as actual and estimated transmit *times* are represented as units of *time* (e.g., milliseconds or seconds), whereas a "maximum bit rate for each channel" is represented as an amount of data per unit time (e.g., megabits per second). As the maximum bit rate for each channel provides no meaningful (or even applicable) measure of a difference between the actual and estimated transmit times of a display stream, one of ordinary skill in the art would not be motivated in any manner to utilize the maximum bit rate for each channel as a predetermined tolerance as proposed by the Final Rejection, even if it were possible to do so. Accordingly, the proposed combination of the Girod and Putzolu references fails to disclose or suggest at least the features of determining, for each display stream of a plurality of display streams, if an estimated transmit time meets an actual transmit time *within a predetermined tolerance* as recited by claim 33.

b) The proposed combination of the Girod and Putzolu references fails to disclose or suggest selecting a first stream of a plurality of display streams based on a prioritization method and selecting one of a plurality of compression methods to be applied to the first stream as recited by claim 33

Claim 33 further recites the features of selecting a first stream of a plurality of display streams based on a prioritization method and selecting one of a plurality of compression methods to be applied to the first stream. The Final Rejection asserts that Figure 3 of the Putzolu reference discloses the features of selecting a first stream of a plurality of display streams based on a prioritization method and that the passage of the Girod reference at col. 7, lines 41-45 discloses the features selecting one of a plurality of compression methods to be applied to the first stream. Specifically, the Final Rejection asserts that the Girod reference discloses that "the plurality of compression methods are used to code the video at three different bit rates, selection

is done using the switch." Final Rejection, p. 11. For ease of reference, the cited passage of the Girod reference at col. 7, lines 41-45 is reproduced below:

> The coding apparatus 100 of FIG. 2 is arranged to allow the coding and storage of the same video signal at a variety of different bit rates. In particular, the video signal is coded using different resolutions of quantization in each of coders 100a, 100b, 100c, respectively.

Girod Reference, col. 7, lines 41-45.

As discussed above, the Girod reference discloses that the same *video in* signal is compressed to different extents to generate different compressed versions of the *video in* signal. A selector (e.g., switch 130, Figure 3 of the Girod reference) then selects between the different compressed versions of the *video in* signal so that segments of one or more of the different compressed versions are time multiplexed for output as a single data stream on a transmission channel. Thus, the Girod reference discloses that selection between data streams occurs after compression of the *video in* signal. Thus, rather than teaching the application of a selected compression method to a selected stream as provided by claim 33, the apparatus resulting from the combination of the Girod and Putzolu references results in the application of a compression method to the *video in* signal and then the selection of an already-compressed version of the *video in* signal based on a priority method. The proposed combination of the Girod and Putzolu references therefore fails to disclose or suggest at least the features of selecting a first stream of a plurality of display streams based on a prioritization method and selecting one of a plurality of compression methods to be applied to the first stream as recited by claim 33.

c) The proposed combination of the Girod and Putzolu references fails to disclose or suggest repeating the steps until the actual transmit time is within the predetermined tolerance of the estimated transmit time as recited by claim 33

Claim 33 recites the features of determining, for each display stream of a plurality of display streams, if an estimated transmit time meets an actual transmit time within a predetermined tolerance, selecting a first stream of the plurality of display streams based on a prioritization method, selecting one of a plurality of compression methods to be applied to the first stream, and repeating each of the above steps until the step of determining indicates the actual transmit time is within the predetermined tolerance of the estimated transmit time. The Final Rejection asserts that the passage of the Girod reference at col. 10, lines 17-26 discloses the claimed features of repeating the steps until the step of determining indicates the actual transmit time is within the predetermined tolerance of the estimated transmit time. For ease of reference, the cited passage of the Girod reference at col. 10, lines 17-26 is reproduced in its entirety below:

> Referring to FIG. 3, if a video sequence was being transmitted over transmission channel 150 using the output of memory unit 140b, a medium quality image would be received by the decoder 160, due to the coarseness of quantization applied to the stored bitstream by quantizer 116b (FIG. 2). If the effective bandwidth of the transmission channel then decreased, decoder 160 would send a request for transmission at a lower bit rate. This would enable the decoder to continue to receive a real time video sequence, albeit at a lower image quality.

Girod Reference, col. 10, lines 17-26.

Specifically, the Final Rejection asserts that "the bit rates [of the apparatus of the Girod reference] are constantly compared to the bandwidth. If the bandwidth drops, a request is made to transmit video at a lower bit rate, which is repeated until successfully [sic] delivery of the video." Final Rejection, p. 11. As discussed above, the Girod reference teaches the compression of the same *video in* signal so as to generate different compressed versions of the *video in* signal and then the time multiplexing of segments of one or more of the different compressed versions

so as to generate a single output display stream. Thus, the *video in* signal is pre-compressed prior to selection of a particular compressed version for output. Moreover, the selection of a particular compressed version is made consistent with the effective bitrate of the transmission channel connected to the decoder 160 (see Figure 3 of the Girod reference). Thus, the apparatus of the Girod reference, as modified by the Putzolu reference to select based on a priority method, does not repeat steps of selecting a first stream and selecting one of a plurality of compression methods to be applied to the first stream because the Girod reference teaches that the *video in* signal initially is converted into different compressed versions, and it is from these compressed versions that a particular segment of the outgoing stream is selected. The Girod reference does not disclose or suggest reiterative selection of display streams and the compression method to be applied as provided by claim 33. Thus, the proposed combination of the Girod and Putzolu reference fails to disclose or suggest the features of repeating each of the [determining and selecting] steps until the step of determining indicates the actual transmit time is within the predetermined tolerance of the estimated transmit time as recited by claim 33.

d) The Girod reference teaches away from the proposed combination of the Girod and the Putzolu references with respect to claim 33

Claim 33 recites the features of selecting a first stream of the plurality of streams based on a prioritization method. The Final Rejection asserts that Figure 3 of the Putzolu reference teaches a prioritization method. Final Rejection, p. 11. However, the Final Rejection fails to describe any motivation for one of ordinary skill in the art to combine the Girod and Putzolu references as proposed by the Final Rejection and, in fact, there is no motivation to combine the Putzolu and Girod references as proposed. In fact, the Girod reference teaches away from such a combination. As taught by the Girod reference, and as acknowledged at, *inter alia*, pages 4, 5 and 6 of the Final Rejection, a compressed version of the *video in* signal is selected based on the

capacity of the transmission channel so as to select the compressed version of the *video in* signal that is most compatible with the transmission channel capacity. The Girod reference performs this selection so as to provide the best tradeoff between video quality and the available bandwidth of the transmission channel. See, e.g., Girod Reference, col. 7, line 55 – col. 8, line 53. If, however, the Girod reference were to use a priority method as allegedly disclosed by the Putzolu reference so that the different compressed versions of the *video in* streams are selected based on their priority, there is a high probability that the apparatus of the Girod reference as modified by the Putzolu reference would (1) select a compressed version for transmission that exceeds the capability of the transmission channel due to its higher priority than a more compressed version, thereby significantly degrading the quality of the transmitted image or (2) select a compressed version for transmission that is significantly below the available bandwidth due to its higher priority than a less compressed version, thereby resulting in the transmission of a lower image quality version of the *video in* signal than otherwise could be transmitted given the available bandwidth. Thus, the prioritized selection motivation of Putzolu is counter to the goal of providing the highest quality image transfer for a given transmission channel capacity as taught by the Girod reference, and the Girod reference therefore teaches away from the modification in view of the Putzolu reference as proposed by the Final Rejection to arrive at the particular combination of features recited by claim 33.

e) Claims 33-36 and 39 are allowable under 35 U.S.C. § 103(a)

As discussed in sections (a)-(c) above, the proposed combination of the Girod and Putzolu references fails to disclose or suggest each and every feature of independent claim 33, as well as claims 34-36 and 44 at least by virtue of their dependency from claim 33. Moreover, as discussed in section (d) above, the Girod reference teaches away from its combination with the

Putzolu reference so as to arrive at the particular combination of features recited by claims 33-36 and 44. Accordingly, the Final Rejection fails to establish a *prima facie* case of obviousness in support of its rejection of claims 33-36 and 44 under 35 U.S.C. § 103(a). Claims 33-36 and 44 therefore are allowable under 35 U.S.C. § 103(a).

3. Rejection of Claims 37-41

a) The proposed combination of the Girod And Putzolu references fails to disclose or suggest determining whether an actual transmission time for a multimedia channel matches a predicted transmission time within a predetermined tolerance as recited by claim 37

Claim 37, from which claims 38-41 depend, recites the features of determining, for each multimedia channel in a multimedia data stream, whether an actual transmission time for a multimedia channel matches a predicted transmission time *within a predetermined tolerance*. The Final Rejection rejects claim 37 using the same rationale as applied to claims 19 and 33. Final Rejection, p. 11. As similarly discussed above with respect to claim 33, the maximum bit rate for each channel provides no meaningful measure of a difference between the actual and predicted transmission times of a multimedia channel, one of ordinary skill in the art would not be motivated in any manner to utilize the maximum bit rate for each channel as a predetermined tolerance as proposed by the Final Rejection, even if it were possible to do so. Accordingly, the proposed combination of the Girod and Putzolu references fails to disclose or suggest at least the features of determining, for each multimedia channel in a multimedia data stream, whether an actual transmission time for a multimedia channel matches a predicted transmission time *within a predetermined tolerance* as recited by claim 37.

b) The proposed combination of the Girod and Putzolu references fails to disclose or suggest reducing an amount of data associated with a first multimedia channel when it is determined that the actual transmission time of the first multimedia channel exceeds the predicted transmission time by an amount greater than the predetermined tolerance as recited by claim 37

Claim 37 further recites the features of reducing an amount of data associated with the first multimedia channel when it is determined that the actual transmission time of the first multimedia channel exceeds the predicted transmission time by an amount greater than the predetermined tolerance. Although the Final Rejection rejects claim 37 using the same rationale as applied to claims 19 and 33, the Final Rejection does not specifically address how the proposed combination of the Girod and the Putzolu reference discloses or suggests the features of reducing the amount of data as recited by claim 33. See Final Rejection, p. 11.

Regardless, as discussed above, the Girod reference discloses that the same *video in* signal is compressed to different extents to generate different compressed versions of the *video in* signal. A selector (e.g., switch 130, Figure 3 of the Girod reference) then selects between the different compressed versions of the *video in* signal so that segments of one or more of the different compressed versions are time multiplexed for output as a single data stream on a transmission channel. The Girod reference therefore discloses that selection between data streams occurs after compression of the *video in* signal and that the selection of a particular compressed version of the *video in* signal is in response to the capacity of the transmission channel. Thus, rather than teaching the reduction of an amount of data associated with a first multimedia channel when it is determined that the actual transmission time of the first multimedia channel exceeds a predicted transmission time as provided by claim 37, the apparatus resulting from the combination of the Girod and Putzolu references results in a compression of the *video in* signal prior to any comparison of an actual transmission time to a predicted

transmission time. The proposed combination of the Girod and Putzolu references therefore fails to disclose or suggest at least the features of reducing an amount of data associated with the first multimedia channel when it is determined that the actual transmission time of the first multimedia channel exceeds the predicted transmission time by an amount greater than the predetermined tolerance as recited by claim 37.

c) The Girod reference teaches away from the proposed combination of the Girod and the Putzolu references with respect to claim 38

Claim 37 recites the features of selecting, using a predefined selection method, a first multimedia channel and reducing an amount of data associated with the first multimedia channel. Claim 38, which depends from claim 37, recites the additional features of wherein the predefined selection method includes a round robin method. The Final Rejection asserts that Figure 3 of the Putzolu reference teaches a prioritization method. Final Rejection, p. 11. However, as discussed above, not only is there no motivation to combine the Putzolu and Girod references as proposed, the Girod reference in fact teaches away from such a combination because the prioritized selection motivation of Putzolu is counter to the goal of providing the highest quality image transfer for a given transmission channel capacity as taught by the Girod reference.

d) Claims 37-41 are allowable under 35 U.S.C. § 103(a)

As discussed in sections (a) and (b) above, the proposed combination of the Girod and Putzolu references fails to disclose or suggest each and every feature of independent claim 37, as well as claims 38-41 at least by virtue of their dependency from claim 37. Moreover, as discussed in section (c) above, the Girod reference teaches away from its combination with the Putzolu reference so as to arrive at the particular combination of features recited by claim 38. Accordingly, the Final Rejection fails to establish a *prima facie* case of obviousness in support of

its rejection of claims 37-41 under 35 U.S.C. § 103(a). Claims 37-41 therefore are allowable under 35 U.S.C. § 103(a).

VIII. CONCLUSION

For at least the reasons given above, all pending claims are allowable and the Appellant therefore respectfully request reconsideration and allowance of all claims and that this patent application be passed to issue.

Respectfully submitted,

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Date

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IX. APPENDIX OF CLAIMS INVOLVED IN THE APPEAL (37 C.F.R. § 41.37(c)(1)(viii))

The text of each claim involved in the appeal is as follows:

1. (Previously Presented) A method comprising:

receiving a display data;

determining if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and

compressing a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

2. (Previously Presented) The method of claim 1, wherein determining further includes providing the display streams to the first plurality of display devices using a common medium.

7. (Previously Presented) The method of claim 2, wherein the common medium includes wireless Radio Frequency.

9. (Previously Presented) The method of claim 1, wherein the predetermined criteria is determined to be met when each display stream of the first plurality of display streams is expected to be transmitted in a manner that allows for real time simultaneous display of each of the first plurality of display streams.

10. (Previously Presented) The method of claim 9, wherein determining further includes determining if an actual transmission time of a frame of data for a first display stream of the plurality of display streams matches a first predicted transmission time.

11. (Previously Presented) The method of claim 10, wherein determining further includes determining, for each display stream in the first plurality of display streams, whether an

actual transmission time for a video frame matches a predicted transmission time within a predetermined tolerance.

12. (Previously Presented) The method of claim 9, wherein determining further includes determining, for each display stream in the first plurality of display streams, whether an actual transmission time for a video frame matches a predicted transmission time.

13. (Previously Presented) The method of claim 1, wherein there is a one-to-one correspondence between display streams in the first plurality of display streams and display devices in the first plurality of display devices.

14. (Previously Presented) The method of claim 1, wherein there are fewer display streams in the first plurality of display streams than display devices in the first plurality of display devices, where at least one stream in the first plurality of display streams is shared by two or more display devices in the first plurality of display devices.

15. (Previously Presented) The method of claim 1, wherein the display data comprises video data.

16. (Previously Presented) The method of claim 1, wherein the display data comprises graphics data.

17. (Previously Presented) The method of claim 1, wherein display data comprises digital data.

18. (Previously Presented) The method of claim 1, wherein the display data comprises analog data.

19. (Previously Presented) The method of claim 1, wherein the display data includes data from a plurality of sources.

20. (Previously Presented) The method of claim 1, wherein receiving further includes receiving at least a portion of the display data from a digital data stream having a plurality of multiplexed channels.

21. (Original) The method of claim 20, wherein the digital data stream having a plurality of multiplexed channels is an MPEG data stream.

22. (Previously Presented) The method of claim 1, wherein determining includes determining if the predetermined criteria is met when the first plurality of display streams is to be transmitted to the first plurality of display devices within a fixed bandwidth.

23. (Previously Presented) The method of claim 22, wherein the fixed bandwidth is a maximum bandwidth of the transmission medium.

24. (Previously Presented) The method of claim 22, wherein the fixed bandwidth is a predetermined portion of an available bandwidth of the transmission medium.

25. (Previously Presented) The method of claim 22, wherein the fixed bandwidth is a maximum bandwidth of a processing device that performs the compression of the first display stream.

26. (Previously Presented) The method of claim 1 further comprising:

selecting the first display stream from the first plurality of display streams using a predefined selection method.

27. (Previously Presented) The method of claim 26, wherein the predefined selection method includes a round robin method.

28. (Original) The method of claim 26, wherein the predefined selection method includes selecting a display stream of the plurality of display streams having a greatest amount of data.

29. (Previously Presented) The method of claim 26, wherein selecting is based on a prioritization of one or more of the display streams associated with the plurality of display streams.

30. (Previously Presented) The method of claim 26, wherein selecting the first display stream includes selecting an uncompressed display stream over a display stream compressed in the first manner.

31. (Previously Presented) The method of claim 1, wherein compressing includes:

compressing in a first manner when it is determined the first display stream has not been compressed in the first manner; and

compressing in a second manner when it is determined that the first display stream has been compressed in the first manner.

32. (Previously Presented) The method of claim 31, wherein compressing further includes compressing in a third manner when it is determined that the first display stream has been compressed in the second manner.

33. (Previously Presented) A method comprising:

determining, for each display stream of a plurality of display streams, if an estimated transmit time meets an actual transmit time within a predetermined tolerance;

selecting a first stream of the plurality of display streams based on a prioritization method;

selecting one of a plurality of compression methods to be applied to the first stream; and

repeating each of the above steps until the step of determining indicates the actual transmit time is within the predetermined tolerance of the estimated transmit time.

34. (Previously Presented) The method of claim 33, wherein the predetermined tolerance is based on a predetermined transmission rate to provide real time simultaneous display of each of the plurality of display streams.

35. (Previously Presented) The method of claim 33, wherein one of the plurality of compression methods includes reducing a precision of the first display stream.

36. (Previously Presented) The method of claim 33, wherein one of the plurality of compression methods includes reducing a resolution of the first display stream.

37. (Previously Presented) A method comprising:

receiving a multimedia data stream having a plurality of multimedia channels;

determining, for each multimedia channel in the multimedia data stream, whether an actual transmission time for a multimedia channel matches a predicted transmission time within a predetermined tolerance;

selecting, using a predefined selection method, a first multimedia channel; and

reducing an amount of data associated with the first multimedia channel when it is determined that the actual transmission time of the first multimedia channel exceeds the predicted transmission time by an amount greater than the predetermined tolerance.

38. (Original) The method as in claim 37, wherein the predefined selection method includes a round robin method.

39. (Previously Presented) The method as in claim 37, wherein reducing includes reducing a precision of the data transmitted as the first multimedia channel.

40. (Previously Presented) The method as in claim 37, wherein reducing includes reducing a resolution of the data transmitted as the first multimedia channel.

41. (Original) The method as in claim 37, wherein the multimedia data stream includes MPEG data.

42. (Previously Presented) A system comprising:

one or more data processors;

memory operably coupled to said one or more processors; and

a set of instructions capable of being stored in said memory and executed by said one or more processors, said set of instructions to manipulate said one or more processors to:

receive a display data;

determine if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and

compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

43. (Previously Presented) A computer readable medium tangibly embodying a set of instructions to manipulate one or more data processors to:

receive a display data;

determine if a predetermined criteria is met by a first representation of the display data, wherein the first representation of the display data includes a first plurality of display streams to be transmitted to a first plurality of display devices; and

compress a first display stream of the first plurality of display streams when it is determined that the first representation of the display data does not meet the predetermined criteria.

44. (Previously Presented) The method of claim 33, further comprising:

transmitting the plurality of display streams substantially simultaneously.

45. (Previously Presented) The system of claim 42, wherein the predetermined criteria includes a real-time transmission of each of the plurality of display streams.

46. (Previously Presented) The system of claim 42, wherein the predetermined criteria includes a substantially simultaneous transmission of the plurality of display streams within a predetermined bandwidth.

47. (Previously Presented) The computer readable medium of claim 43, wherein the predetermined criteria includes a real-time transmission of each of the plurality of display streams.

48. (Previously Presented) The computer readable medium of claim 43, wherein the predetermined criteria includes a substantially simultaneous transmission of the plurality of display streams within a predetermined bandwidth.

49. (Previously Presented) A method comprising:

determining whether a transmission of a data stream having a plurality of multimedia channels is expected to meet a predetermined criteria;

compressing at least one of the multimedia channels in the data stream to generate a first compressed data stream when the transmission of the data stream is not expected to meet a predetermined criteria; and

determining whether a transmission of the first compressed data stream is expected to meet the predetermined criteria.

50. (Previously Presented) The method of claim 49, further comprising:

transmitting the first compressed data stream when the transmission of the first compressed data stream is expected to meet the predetermined criteria.

51. (Previously Presented) The method of claim 49, further comprising:

compressing at least one multimedia channel of the first compressed data stream to generate a second compressed data stream when the transmission of the first data stream is expected to meet the predetermined criteria; and

determining whether a transmission of the second compressed data stream is expected to meet the predetermined criteria.

52. (Previously Presented) The method of claim 51, further comprising:

transmitting the second compressed data stream when the transmission of the second compressed data stream is expected to meet the predetermined criteria.

53. (Previously Presented) The method of claim 49, wherein the predetermined criteria includes a real-time transmission of each of the multimedia channels.

54. (Previously Presented) The method of claim 49, wherein the predetermined criteria includes a transmission of the data stream within a maximum bandwidth.

X. EVIDENCE APPENDIX (37 C.F.R. § 41.37(c)(1)(ix))

None.

XI. RELATED PROCEEDINGS APPENDIX (37 C.F.R. § 41.37(c)(1)(x))

None.